Fitter Tuning

CFT&SMT resolutions, pt dependence of χ^2 cut, Lorentz drift needed?…

but Todd showed 60 μm impact parameter resolution from fitting.

Sidetracked:) …

Study all by comparing L1CTT hits, STT hits and *true tracks* from MC

- use new single muon samples
- plot muons w/ and w/out L1CTT and w/ and w/out roads
- plot (hit – true track) rϕ residuals

Initial problems: only 50% of L1CTT tracks have L2STT roads, and SMT residual means and widths are both 30 μm, not 15 μm. (wrt to TRUE particle position)

Found some bugs

1. (DOmino only) q = -1 tracks had no hits associated (affects efficiency)
2. Clustering in ½ strip bins, not ¼ strip bins. (affects residuals)

temporary fixes (& sent to Harrison)

kludged up fix for fiber numbering problem
(perhaps I introduced CFT bugs, so not sent to Harrison)

reran on single muon samples
association efficiency now approx. 90%
hit-track residuals now consistent w/12.5 μm

remaining (obvious) problems
1. SMT residuals not centered on zero (maybe understand 6 μm of offset: using cluster edge, not centroid, in fitting.)
2. CFT residual pt dependence

Current hit-road association status (50 GeV)